

What is claimed is:

1. A dye-sensitized solar cell, comprising:  
a semiconductor electrode;  
5 a confronting electrode; and  
electrolyte of 1,3-vinylalkylimidazolium iodide family  
being inserted between the semiconductor electrode and the  
confronting electrode.

10 2. The dye-sensitized solar cell as recited in claim 1,  
wherein, in the electrolyte, 1 to 30 mol% iodine ( $I^2$ ) of the  
total weight of 1,3-vinylalkylimidazolium iodide is dissolved  
therein.

15 3. The dye-sensitized solar cell as recited in claim 1,  
wherein the semiconductor electrode is formed of dye molecular  
layer adsorbed to a conductive transparent glass substrate, a  
transitive metal oxide layer coating the conductive  
transparent glass substrate, and a transitive metal oxide  
20 layer.

4. The dye-sensitized solar cell as recited in claim 3,  
wherein the transitive metal oxide layer is nano-sized  
titanium dioxide and the dye molecular layer is ruthenium  
25 complex.